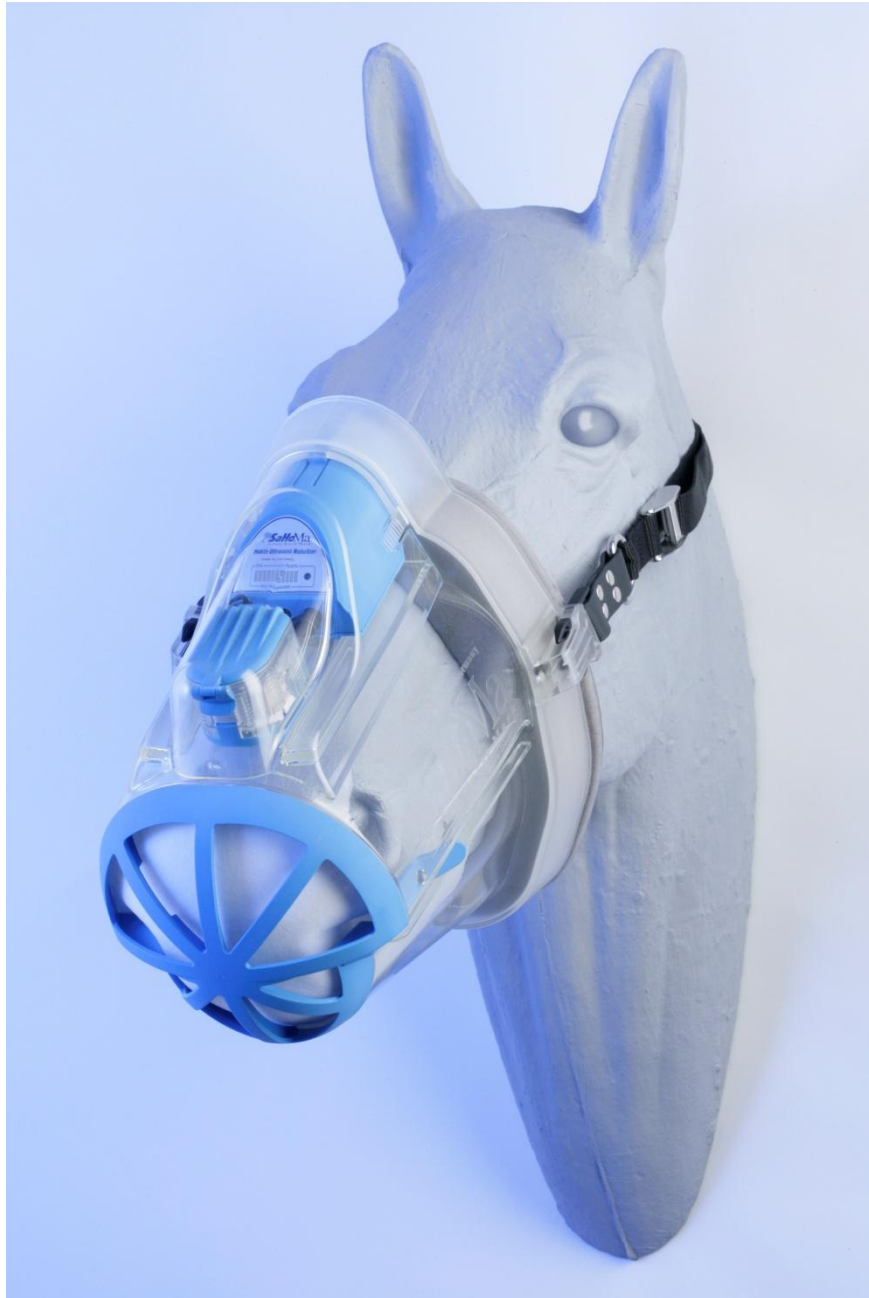




Operating Instructions

SaHoMa™-II mobile ultrasonic nebulizer

Manufacturer:

NEBU-TEC International med. Produkte
Eike Kern GmbH
Kreuzfeldring 17
63820 Elsenfeld – GERMANY

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Fax: (+49) (0) 6022 – 610 – 62 – 99
Email: info@nebu-tec.de
Web: www.nebu-tec.de



Description:

SaHoMa™-II mobile ultrasonic nebulizer
Typ: HM-200
Made in Germany

SaHoMa™-II Inhalation mask
Typ: HM-210
Made in Germany

Safety Guidelines:

Each handling of the device assumes the exact knowledge and observance of the operating instructions. In any case the liability for reliable function of the device is transferred to the user in case of unauthorized access or in case of not handling it in accordance with the intended use.

Intended Use:

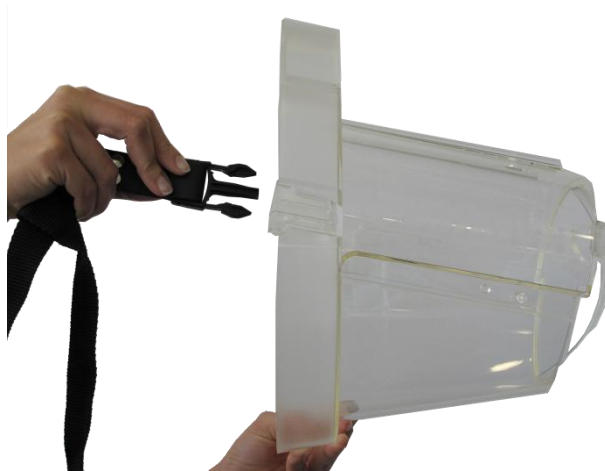
In combination with the SaHoMa™-II mobile ultrasonic nebulizer, your SaHoMa™-II Inhalation Mask applies highly efficient and accurately dosed medication directly into the respiratory cycle of your horse.

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1. How to operate the SaHoMa™-II Inhalation Mask - Option 1

1.1 Connection of the fastening strap to the SaHoMa™-II Inhalation Mask

Connect the fastening strap (Art.-No. HM-217) to the SaHoMa™-II Inhalation Mask (Art.-No. HM-210) by plugging the two clips into the fastening bar of the inhalation mask.



1.2 How to attach the sealing ring

Slowly put the sealing ring (Art.-No. HM-215) over the horse's snout so it can get used to the upcoming inhalation treatment.



1.3 How to attach the SaHoMa™-II Inhalation Mask

Now put the SaHoMa™-II Inhalation Mask (Art.-No. HM-210) over the horse's snout and fit the sealing ring (Art.-No. HM-215) into the rear bulge of the inhalation mask. The horse can still breathe without any resistance because both the filter basket (Art.-No. HM-212) and the filter membrane (Art.-No. HM-214) have not been inserted yet.



Now fasten the fastening strap (Art.-No. HM-217) behind the horse's head and close the chin strip.



1.4 Connection of the SaHoMa™-II mobile ultrasonic nebulizer with the SaHoMa™-II Inhalation Mask

Slide the SaHoMa™-II mobile ultrasonic nebulizer (Art.-No.: HM-200) along the slide rails of the SaHoMa™-II Inhalation Mask (Art.-No. HM-210) into the opening. The SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200) will snap into the SaHoMa™-II Inhalation Mask (Art.-No. HM-210) and thus guarantees a secure connection.



1.5 Connection of the SaHoMa-II nebulization unit with SaHoMa™-II mobile ultrasonic nebulizer

Now connect the connection cable of the SaHoMa™-II nebulization unit (Art.-No.: HM-201) with the SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200).



Then connect the SaHoMa™-II nebulization unit (Art.-No. HM-201) with the SaHoMa™-II Inhalation Mask (Art.-No.: HM-210). Attach the nebulization unit (Art.-No. HM-201) as shown in the following picture in order to ensure that no residue is left in the nebulization unit (Art.-No. HM-201)



1.6 Protection of the electronic part and the nebulization unit of the SaHoMa™-II Inhalation Mask

Slide the protective cover (Art.-No. HM-211-2) both over the electronic part and the nebulization unit.



1.7 Connection of the filter membrane and the filter basket with the SaHoMa™-II Inhalation Mask

Insert a new filter membrane (Art.-No. HM-214) into the filter basket (Art.-No. HM-212) of the SaHoMa™-II Inhalation Mask.



Gently slide the filter basket (Art.-No. HM-212) with the inserted filter membrane (Art.-No. HM-214) forward over the two lateral bolts. Then push both brackets of the filter basket (Art.-No. HM-212) onto the pins until they audibly click into place.



2. How to operate the SaHoMa™-II Inhalation Mask - Option 2

In case your horse is easily startled, you can operate the SaHoMa™-II Inhalation Mask according to option 2 as follows:

2.1 Connection of the SaHoMa™-II mobile ultrasonic nebulizer with the SaHoMa™-II Inhalation Mask

Slide the SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200) along the slide rails of the SaHoMa™-II Inhalation Mask (Art.-No. HM-210) into the opening. The SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200) will snap into the SaHoMa™-II Inhalation Mask (Art.-No. HM-210) and thus guarantees a secure connection.



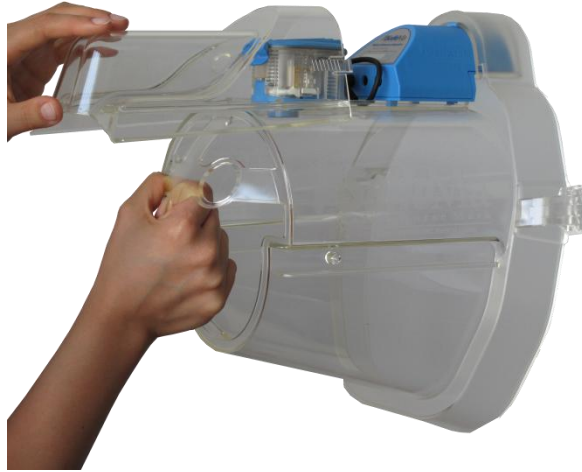
2.2 Connection of the SaHoMa-II nebulization unit with SaHoMa™-II mobile ultrasonic nebulizer

Now connect the connection cable of the SaHoMa™-II nebulization unit (Art.-No. HM-201) with the SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200). Then connect the SaHoMa™-II nebulization unit (Art.-No. HM-201) with the SaHoMa™-II Inhalation Mask (Art.-No. HM-210).



2.3 Protection of the electronic part and the nebulization unit of the SaHoMa™-II Inhalation Mask

Slide the protective cover (Art.-No. HM-211-2) both over the electronic part (Art.-No.: HM-200) and the nebulization unit (Art.-No. HM-201).



2.4 Connection of the filter membrane and the filter basket with the SaHoMa™-II Inhalation Mask

Insert a new filter membrane (Art.-No. HM-214) into the filter basket (Art.-No. HM-212) of the SaHoMa™-II Inhalation Mask.



Gently slide the filter basket (Art.-No. HM-212) with the inserted filter membrane (Art.-No. HM-214) forward over the two lateral bolts. Then push both brackets of the filter basket (Art.-No. HM-212) onto the pins until they audibly click into place.



2.5 Connection of the fastening strap to the SaHoMa™-II Inhalation Mask

Connect the fastening strap (Art.-No.: HM-217) with the SaHoMa™-II Inhalation Mask (Art.-No. HM-210) by plugging the two clips into the fastening bar of the inhalation mask (Art.-No. HM-210).



2.6 How to attach the sealing ring

Put the sealing ring (Art.-No. 215) slowly and carefully over the horse's snout so it can get used to the upcoming inhalation treatment.



2.7 How to attach the SaHoMa™-II Inhalation Mask

Now put the SaHoMa™-II Inhalation Mask (Art.-No. HM-210) over the horse's snout and fit the sealing ring (Art.-No. HM-215) into the rear bulge of the Inhalation Mask (Art.-No. HM-210).



Now fasten the fastening strap (Art.-No. HM-217) behind the horse's head and close the chin strip.



3. How to turn on the ultrasonic nebulizer SaHoMa™-II and how to select the programs

3.1 Program 1 (with automatic switch-off and detection of the residue quantity)

Program 1 of the ultrasonic nebulizer is activated by pressing the power button in the side hole of the protective cover (Art.-No. HM-211-2) for approx. 3 seconds. The light bar is rotating from the left to the right side. The multifunctional light is permanently flashing green.

3.2 Program 2 (time-controlled program)

Program 2 you are able to select inhalation times of 5 minutes, 10 minutes, 15 minutes, 20 minutes or 25 minutes.

Program 2 is activated by pressing the power button in the side hole of the protection cover (Art.-No. HM-211-2) for approx. 5 seconds. Now a red bar appears in the display. You are able to select 5-minute intervals. One bar is equivalent to “5 minutes”. Keep the power button pressed for the program “10 minutes” until another bar appears – and so on (adjustable up to 25 minutes). After reaching the desired time, release the button and the inhalation process will be started automatically.

The light bar is rotating from the left to the right side. The multifunctional light is permanently flashing green.



4. Charging the SaHoMa™-II mobile ultrasonic nebulizer

To ensure a high degree of mobility, your SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200) is equipped with integrated battery cells. For your safety the SaHoMa™-II has been provided with a state of charge indication. This enables you to check the remaining capacity at any time.

General Advice:

Please note that the integrated display will not work shortly after completion of an inhalation process and the displayed value is not reliable. This is due to the structure of the rechargeable battery. A reliable value can be displayed after a period of approx. 1 hour.

4.1 Capacity detection of the rechargeable battery pack

Shortly press the button of the SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200). The light bar in the display will show you the battery capacity for approx. 3 seconds.



If this value is less than or equal to 20 % we recommend to recharge the SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200)

4.2 Recharging des SaHoMa™-II mobile ultrasonic nebulizer

Connect the SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200) with the power cord (HM-204) and an electrical outlet. During the charge the indicator light is flashing green



When the SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200) is completely charged, the indicator light will be permanently green.



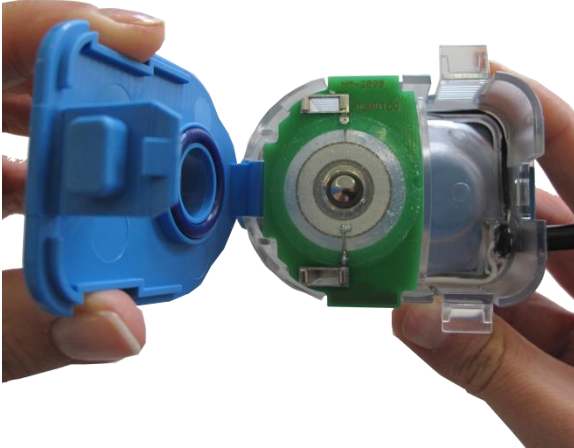
Attention:

Only use the original power cord (HM-204) for charging the SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200). Do not use a damaged or defective power cord (HM-204). Contact the manufacturer immediately if the device is defective.

5. Cleaning the Nebulization Unit

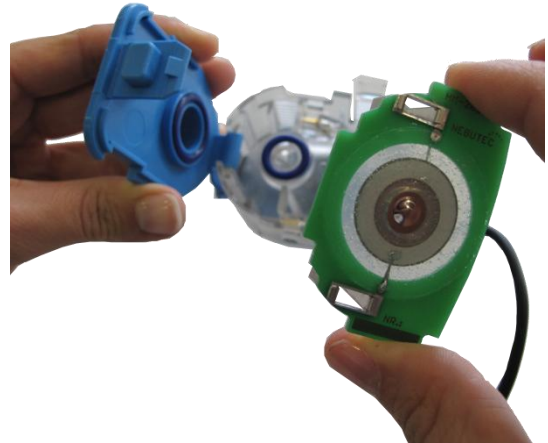
5.1 Cleaning the aerosol generator

Abb. 1



Open the nebulization unit (Art.-No. HM-201) by pressing the blue button and turning the bottom down.

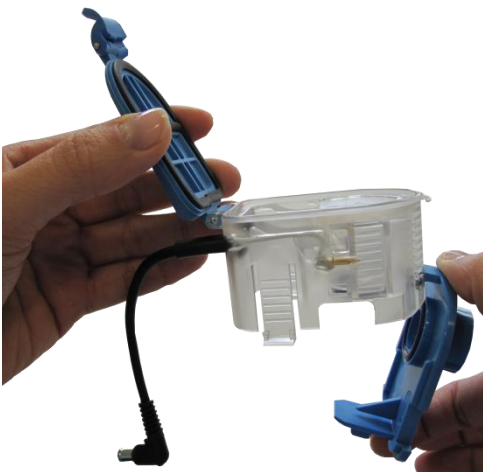
Abb. 2



Now you can remove the aerosol generator (Art. HM-207) carefully from the nebulization Unit (Art.-No. HM-201). Please only touch the aerosol generator (Art.-No. HM-207) carefully at its frame and do not touch the metal membrane. Then rinse the aerosol generator (Art.-No. HM-207) by using distilled water.

5.2 Cleaning the medication chamber

Abb. 1



Open the cap and the bottom of the nebulization unit (Art.-No. HM-201).

Never pull directly at the cable as this could cause cable breaks and device failures.

Rinse the nebulization unit (Art.-No.: HM-201) under running tap water.

Important note:

Please make sure that the cable with its plug does not get wet.

(Danger of short-circuit)

5.3 Drying the accessory parts of the nebulization unit

Place all cleaned accessory parts of the nebulization unit (Art.-No. HM-201) on a clean, dry and absorbent surface and let them air-dry completely.

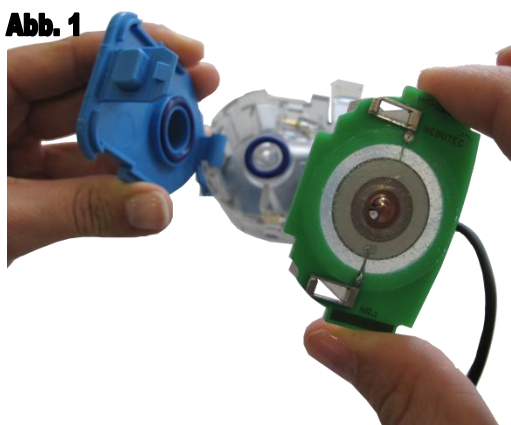
Note:

If you intend to apply different medication during your inhalation therapy, please note the following:
After each application the nebulizer (Art.-No. HM-201) needs to be rinsed under running warm water until the medicine residues are completely removed. This helps to avoid undesired interactions between the medicine residues

The aerosol generator (Art.-No. HM-207) is a wearing part and must be replaced depending on the time of usage, but in any case at least after 6 months.

5.4 Assembly of the nebulization unit

Abb. 1



Open the bottom of the nebulization unit (Art.-No. HM-201). Now insert the aerosol generator (Art.-No. HM-207) into the nebulization unit (Art.-No. HM-201).

For this purpose please touch the aerosol generator (Art.-No. HM-207) only at the frame.

Do not touch the metal membrane!

The aerosol generator (Art.-No. HM-207) audibly clicks into place when inserting it.

Abb. 2



The nebulization unit (Art.-No. HM-201) is now ready for the next application. Please always store the nebulization unit (Art.-No. HM-201) in assembled condition.

6. Filling the nebulization unit

Open the cap of the nebulization unit (Art.-No. HM-201) and fill in the liquid to be nebulized by using a syringe, an ampoule, etc. Please note that the maximum filling quantity is 10 ml. Then close the cap of the nebulization unit (Art.-No. HM-201).



7. Cleaning the aerosol generator with the SaHoMa™ concentrated detergent

The SaHoMa™-II should only be cleaned by using the concentrated detergent provided by the manufacturer (Art.-No. HM-230 / HM-234). The unit needs to be cleaned if the performance of the aerosol generator is significantly decreasing. Führen Sie diesen Reinigungsvorgang immer dann durch, wenn die Leistung der Aerosolerzeugung merklich zurückgeht.

For opening and cleaning the SaHoMa™-II nebulization unit (Art.-No. HM-201), please follow the instructions for use in **Chapter 5 “Cleaning the Nebulization Unit“**

IMPORTANT: THE CONCENTRATED DETERGENT MAY NOT BE INHALED!

ATTENTION: Always arrange for adequate ventilation!

Proceed as follows when using the SaHoMa™ concentrated detergent:

1. Fill the medication chamber with the SaHoMa™-II concentrated detergent (Art.-No. HM-230 / HM-234).
2. The SaHoMa™-II concentrated detergent (Art.-No. HM-230 / HM-234) should be nebulized for about 1 minute.

ATTENTION: Always arrange for adequate ventilation!

IMPORTANT: THE CONCENTRATED DETERGENT MAY NOT BE INHALED!

3. Leave the detergent in the medication chamber for 3 minutes, allowing it to act on the aerosol generator (Art.-No. HM-207)
4. Wait until the SaHoMa™-II concentrated detergent (Art.-No. HM-230 / HM-234) is completely nebulized.

ATTENTION: Always arrange for adequate ventilation!

IMPORTANT: THE CONCENTRATED DETERGENT MAY NOT BE INHALED!

5. Now rinse the nebulization unit thoroughly with warm tap water for at least 1 minute.
6. Then 1ml of distilled (demineralized) water should be nebulized.

Please note:

Please always arrange for adequate ventilation when nebulizing the SaHoMa™-II concentrated detergent.

IMPORTANT: THE CONCENTRATED DETERGENT MAY NOT BE INHALED!



8. Technical Information

8.1 Technical Information SaHoMa™-II mobile ultrasonic nebulizer

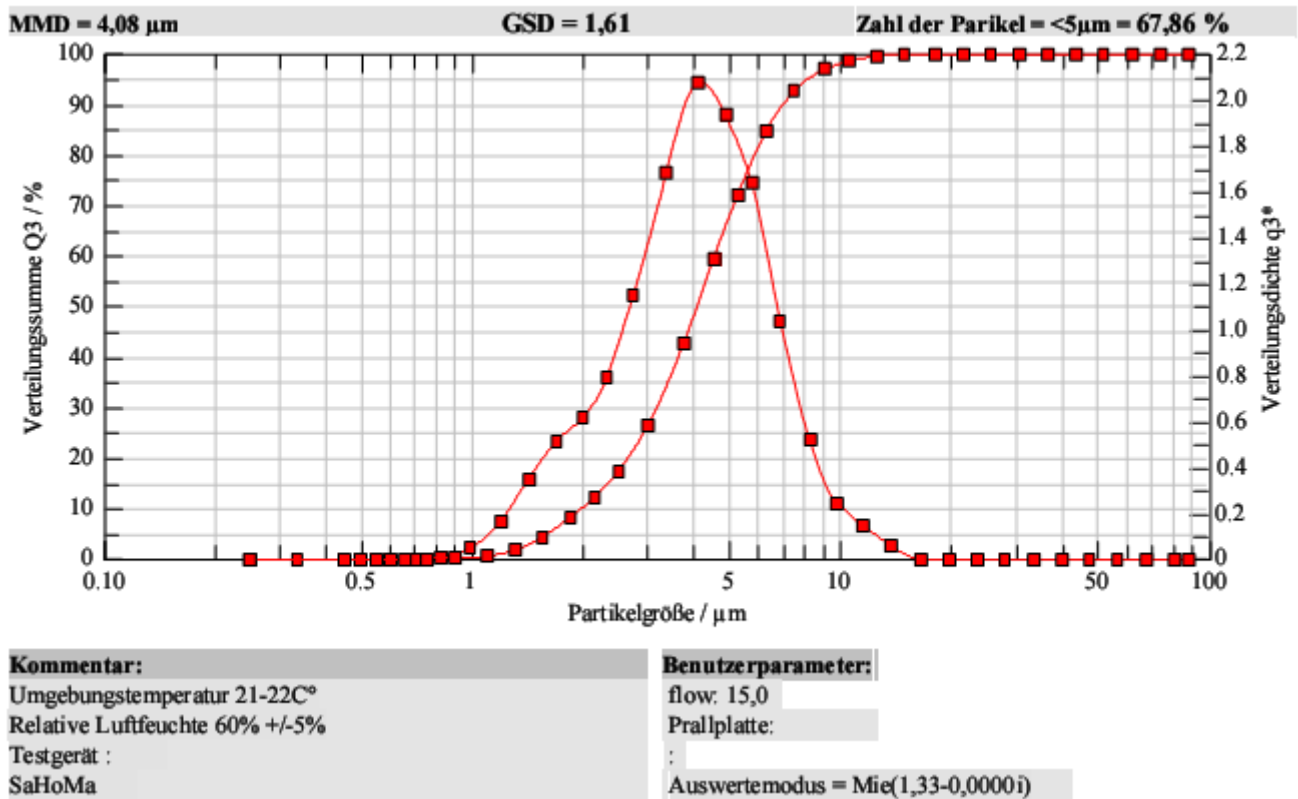
Type:.....HM-200
Description:.....SaHoMa™-II mobile ultrasonic nebulizer
Dimensions basic device (L x W x H):.....115 x 85 x 70 mm
Weight basic device:.....220 g
Power supply:.....battery operation
Power cord:.....110 – 230 VAC / 1,5 A
Ultrasonic frequency:.....120 kHz
Nebulization output.....0,35 – 0,70 ml/min.
Electrical protection class:.....IIB

Type:.....HM-201
Description:.....nebulization unit
Dimensions (L x W x H):.....90 x 50 x 60 mm
Weight:.....80 g
Capacity of nebulization unit:.....10 ml

8.2 Technical Information SaHoMa™-II Inhalation Mask

Type:.....HM-210
Dimensions mask (L x W x H):.....275 x 250 x 325 mm
Weight Mask:.....600g
Material data sheet:.....GRILAMID

8.3 Aerosol spectrum SaHoMa™-II mobile ultrasonic nebulizer



The aerosol characteristics were determined by means of a HELOS VARIO KF diffractometer.
Test medium: 0,9 % sodium chloride (NaCl)

8.4 Average operating life of the components of the SaHoMa™-II mobile ultrasonic nebulizer:

Nebulization unit for SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-201).....12 months

Aerosol generator (Art.-No. HM-207).....maximum 6 months

After the expiration of the operating life we recommend to replace the components in order to guarantee proper functioning. The components need to be replaced earlier if the nebulization time increases although using the same solution and the same volume as usual.

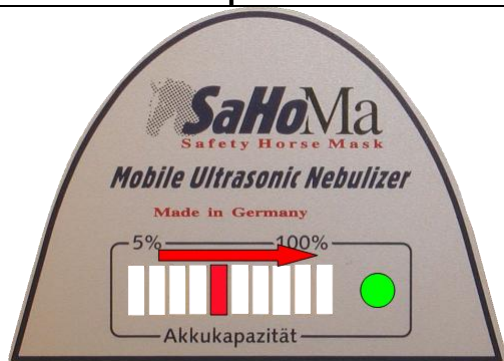
8.5 Display of the SaHoMa™-II mobile ultrasonic nebulizer

Display of the battery capacity:



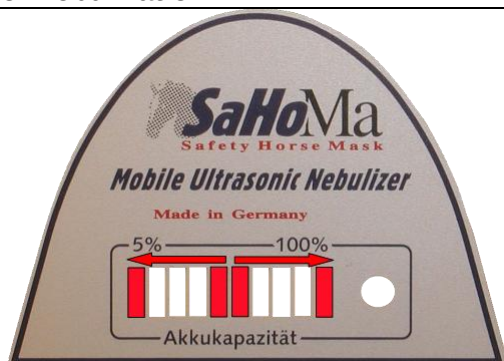
Shortly push the button of your SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200). The battery capacity will be displayed for approx. 3 seconds.

Start of nebulization process:



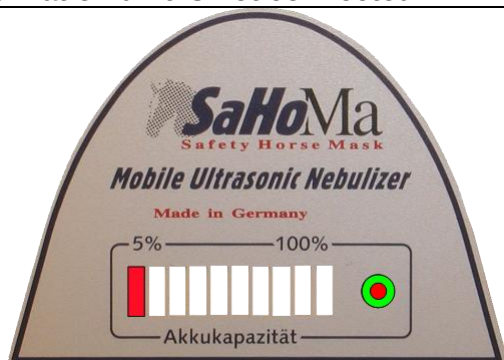
Push the button of the SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200) for 3 seconds. The nebulization will be initiated. This is indicated by a rotating light bar from the left to the right together with a permanent green light.

End of nebulization:



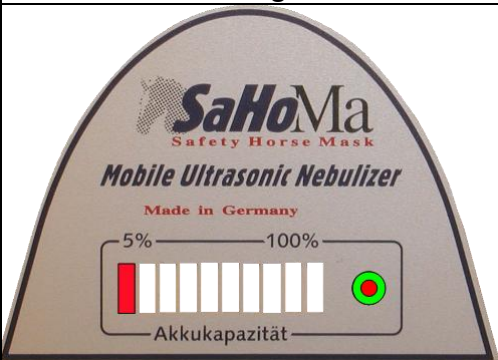
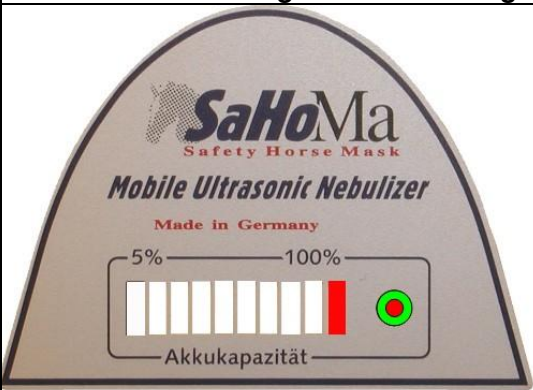
When the medication is completely nebulized, the light bars in the display of the SaHoMa™-II ultrasonic nebulizer (Art.-No. HM-200) will move synchronously from the middle to both sides (left/right)

Nebulization unit is not connected:



If there is no nebulization unit connected while pushing the button of the SaHoMa™-II mobile ultrasonic nebulizer (Art.-No. HM-200) you will see the following display:
The light bar is continuously lit and the multifunction light is flashing red and green.

8.6 Troubleshooting

No function - red light bar on the left side	
	Device shows no function. The light bar is on the left side, is continuously lit and the multifunction light is flashing red and green. Defective cable, broken cable. Please replace the nebulization unit (HM-201).
No function – red light bar on the right side:	
	Device shows no function. The light bar is on the right side, is continuously lit and the multifunctional light is flashing red and green. Defective aerosol generator. Please replace the aerosol generator (HM-207).

Problem	Possible cause / troubleshooting
Extended inhalation time	- Has the aerosol generator been hygienically processed according to chapter 4? - Has the aerosol generator been mechanically damaged or is the operating life exceeded? For specific medication the treatment times can differ from the values stated.
Low or no aerosol output below an ambient temperature of 15°C	- The ambient temperature should not be below 15°C. - Please wait for about 30 minutes until the device has been adapted to the ambient temperature. Any medication to be nebulized should be at ambient temperature.

8.7 Ambient conditions

The aerosol characteristics can be guaranteed if the following ambient conditions are kept:

Ambient temperature.....	15°C bis 35 °C
Relative humidity of ambient air.....	30 % bis 95 %

Any medication to be nebulized must be at room temperature.

The aerosol spectrum can not be guaranteed if the relative humidity of the ambient air is too low (< 30%).

8.8 Storage and transport conditions

Ambient conditions to ensure the transport and storage of the SaHoMa™-II mobile ultrasonic nebulizer:

Temperature.....	- 20 ° C bis + 60 ° C
Relative humidity of ambient air.....	15 % bis 95 %

The parts may not be exposed to direct sunlight during storage and transportation.

The nebulization unit, SaHoMa™-II mobile ultrasonic nebulizer basic device and power cord may not be stored in damp environment or transported together with damp objects. Extreme fluctuations of the ambient temperature can affect the functionality of the device due to condensation humidity.

9. Warranty

We grant a 24-months warranty on your SaHoMa™-II Inhalation Mask (Art.-No.: HM-210) and on the SaHoMa™-II mobile ultrasonic nebulizer (Art.-No.: HM-200) starting from the date of purchase.

The integrated battery cells have a warranty period of 6 months.

Any damages caused by improper handling of the device are not subject to warranty protection.

The warranty expires in the case of intervention from outside. Wearing parts of the SaHoMa™-II mobile ultrasonic nebulizer, such as the nebulization unit or aerosol generator are excluded from warranty.

Wearing parts of the SaHoMa™-II Inhalation Mask, such as filter membrane or sealing ring, are excluded from warranty.

9.1 Warranty Card

Warranty Card	
SaHoMa™-II mobile ultrasonic nebulizer	
Type: HM-200	
Date of Purchase:	_____
Serial-Number:	_____
SaHoMa™-II Inhalation Mask	
Type: HM-210	
Date of Purchase:	_____
Owner:	
Name:	_____

Address:	_____

Country	_____

10. SaHoMa™-II List of Articles

Article-No.:	Image	Description:
HM-200-1		SaHoMa™-II mobile ultrasonic nebulizer incl. Nebulization unit & power cord
HM-201		SaHoMa™-II nebulization unit complete
HM-202		SaHoMa™-II nebulization unit solo
HM-204		SaHoMa™-II power cord
HM-207		SaHoMa™-II aerosol generator for nebulization unit
HM-210-1		SaHoMa™-II Inhalation Mask incl. fastening strap, filter basket, sealing ring, 5 filter membranes & carrying box
HM-211-1		SaHoMa™-II Inhalation Mask (without accessories)
HM-211-2		SaHoMa™-II protection cover
HM-212		SaHoMa™-II filter basket

SaHoMa™-II mobile ultrasonic nebulizer

Article-No.:	Image	Description
HM-214		SaHoMa™-II filter membrane
HM-215		SaHoMa™-II sealing ring
HM-216		SaHoMa™-II sealing ring small
HM-217		SaHoMa™-II fastening strap
HM-218		SaHoMa™-II carrying box
HM-219		SaHoMa™-II Sealing ring small for foals
HM-230		SaHoMa™-II concentrated detergent for SaHoMa™-II aerosol generator (5ml)
HM-234		SaHoMa™-II concentrated detergent for SaHoMa™-II aerosol generator (50ml)



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